

Applicant: David K. Mesecher
Application No.: 10/068,718

REMARKS

In the final office action, claims 1 – 7 were rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Kanzaki et al. (U. S. Patent No. 5,652,764) and Yoshida et al. (U. S. Patent No. 5,886,987). Yoshida discloses two arrangements for transmitting multiple user data signals over an antenna array. For an individual user, the user signal is processed by an antenna selecting/weighting circuit which either transmits the user signal over a selected or set of selected antennas or weights them for transmission over all of the antennas. In one embodiment of the invention, each data signal is delayed from each other for detection at receiving units. This process is described in column 4, lines 31 – 52 of Yoshida. The purpose of the delays is to separate the user signals transmitted from the antenna. That portion of the Yoshida also described that the preferred delay amount is several chip periods. The other approach is described at column 7, lines 26 – 44, where the data signals are undelayed. However, the data signal must undergo proper transmission channel composition processing. See column 7, lines 34 – 36 which state "a correct output can be obtained only from a transmission channel having undergone proper compensation processing". The present invention is distinguished from both of these embodiments where delay units are not used to distinguish these from data signals and no transmission compensation processing is

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performed. The present invention provides a simpler arrangement than provided by Yoshida and have accordingly, implementation advantages, such as reducing the complexity of the transmitter and antennae array components. The arrangement of the present invention removes the need for the antenna selecting/weighting circuiting, delay units and the need for sending weight feedback information from the receiver as described in Yoshida. The present invention performs this by using a more open loop fashion, not requiring the feedback for transmission channel processing/weighting. The dependent claims further distinguish from Yoshida where claims 4 and 7 are in a time division duplex format, which is not disclosed by Yoshida and claims 17 and 18 describe using the reference signal weights at the receiver for use in weighting and combining the data signal at the receiver.

With respect to Kanzaki et al., Kanzaki simply discloses transmitting data over multiple antennas using different orthogonal codes. At the receiver, each signal is matched filtered to its respective code and either selected or added, to produce a reception output. This reference does not disclose using reference signals at all, using reference signals in weighting the data signals at the receiver or transmitting in a time division duplex format. Accordingly, Kanzaki is distinguished from the claims. Also, it would not be obvious to combine the use of orthogonal codes for the data transmission with Yoshida et al. Yoshida clearly describes the delay units are needed to distinguish the data signals or transmission

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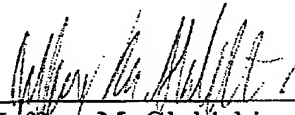
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channel compensation must be performed. Accordingly, Yoshida et al. teaches away from any combination from Kanzaki.

Reconsideration and entry of this amendment is respectfully requested.

Respectfully submitted,

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Enclosures (2)